

San Antonio Water System Standard Specifications for Construction

**ITEM NO. 855
RECONSTRUCTION OF
EXISTING MANHOLES**

855.1 DESCRIPTION: This item shall consist of the reconstruction of all existing manholes, all types and sizes, to include the replacement of manhole rings and covers, the replacing of existing cone, manhole section or sections required regardless of type shown on the plans and in conformity with the provisions of these specifications. Existing Monolithic Manholes are not be reconstructed but replaced under the bid item for Sanitary Sewer Manholes or Structures. All manholes shall be watertight and the interior walls coated with a SAWS approved sewer structural coating. An approved list of sewer structural coating manufactures maybe found on the SAWS website.

855.2 CONSTRUCTION: Manholes shall be raised or lowered by replacing the existing cone and manhole section or sections as required for installation to the finished surface course. All openings shall be protected by hatch covers or the necessary steel plates. The Contractor shall be required to backfill all manholes with an approved flowable backfill in accordance with the requirements of the right-of-way owner having jurisdiction up to 1 foot above the cone section.

Reconstructed Manholes shall also be cleaned of any debris as required by SAWS Inspector. If a new manhole cover, ring, or reconstructed manhole is damaged by the Contractor, it shall be replaced (as directed by SAWS Inspector) by the Contractor at his expense. If concrete throat rings are to be installed they must be used in conjunction with a UV stabilized polyethylene liner and I/I barrier. I/I barrier must meet the following ASTM standards: ASTM D-790/1505 Density of Polyethylene Materials, ASTM D1238 Melt Flow index, ASTM 638 Tensile Strength @ Yield (50mm/mm), ASTM 790 Flexural Modulus, ASTM 648 Heat Deflection temperature @IGEPAL, ASTM 1693 EsCR, 100% IGEPAL/10% IGEPAL.

Material excavation from around the manholes shall be replaced with concrete in accordance with Standard Drawings, and select materials from the excavation (as shown on the plans or specified by the SAWS). All excess materials (of any type) shall be disposed of by the Contractor at his own expense and in an approved location.

All reconstructed existing manholes shall be watertight and the interior walls coated with a SAWS approved sewer structural coating. Note: *Check SAWS*

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website for updates on approved materials.

For reconstructed existing manholes, apply a combination of both products with the cementitious coating first, followed by the epoxy coating. Lafarge SewperCoat 2000 HR regular, with the required one inch thick application, is the only product yet approved which satisfies the requirement of applying the combination of both the cementitious coating and epoxy coating. Approved materials are as follows:

Cementitious coating: With required one inch thick application.

- Permacast CR-5000
- Strong - Seal MS-2C
- Standard Cement Material Inc. Reliner
- Quadex Aluminaliner

Epoxy coating: With specified thickness application.

- Raven 405 Series High Build Epoxy Liner: Required thickness 125 mils
- Spray Wall polyurethane System: Required thickness 150 mils

855.3 MEASUREMENT: Manholes completely reconstructed, as prescribed above, will be measured by the unit of each manhole (any type or size) regardless of the type shown on the plans.

855.4 PAYMENT: The work performed as prescribed by this item will be paid for at the contract unit price bid per manhole for “Reconstruction of Existing Manholes”, which price shall be full compensation for all excavation, backfill material including select backfill, flowable fill, saw cutting of surfaces as required, reinforced concrete/concrete, diversion of flow, bypass pumping, trench protection, special shoring and disposal of material excavated; for furnishing and placing all materials and for all labor, tools, equipment and incidentals necessary to complete the work. *Note: No separate payment for coating.